

# 4 SUSTAINABILITY

THE BOTTOM LINE

MARKET TRENDS

STEEL, AN ENABLER FOR SUSTAINABILITY

CANNED FOOD: A TOP PERFORMER IN ECO-EFFICIENCY

# > THE BOTTOM LINE

*"Sustainability is here to stay or we may not be."*  
*Niall Fitzgerald, Co-Chairman, Unilever*



## The sustainability challenge - an opportunity for your business

Sustainability has risen swiftly up the world agenda in recent years. Consumers, governments and industry recognise that we must look to reduce our global footprint in every area of our lives.

And while this is clearly good for the planet, it can also be good for business. Embracing sustainable practices can deliver competitive advantage. Consumers are looking to retailers and brand owners to take a lead and demonstrate that they are placing sustainability at the heart of their business. Sustainability principles have become more and more essential to protect both brand health and future profitability.

Besides its attributes of safety, protection and conservation, convenience, brand differentiation and consumer appreciation, steel packaging scores highly as a sustainable packaging solution. Steel packaging can play a key role as a marketing tool - demonstrating its own sustainable credentials, promoting the commitment of the retailer and brand owner and creating a point of differentiation.

## The steel industry has impressive sustainability credentials

The steel industry has a long standing tradition in sustainability, having been committed for many years to reducing its use of natural resources and its impact on the environment with significant results.

The industry has also made significant efforts in reducing CO<sub>2</sub> emissions, limiting its use of fossil fuels, boosting recycling levels and ensuring the eco-efficiency of steel packaging.

## Steel is highly recycled and eternally renewable

Steel is the world's most recycled material and this is made possible in a particularly easy and cost-effective manner. Unlike most other recycled materials, steel does not lose its strength or inherent properties, no matter how many times it is recycled. This potential for unlimited recyclability gives steel a huge environmental advantage.

## Canned food has proven its high eco-efficiency

In a context of constant search for increased environmental and economic efficiency, canned food has demonstrated that it stands out as an optimal packaging solution.

A study undertaken by TNO, a renowned food research institute, has indeed confirmed that the canning solution, when taking into account the combined environmental and economic impact, has the best performance compared to all other packaging solutions.

Another study by "Scientific Certification Systems" (SCS) reveals that canned ready meals offer the most energy effective method for product delivery from farm to fork.



# > MARKET TRENDS

*"Sustainability is a business strategy that seeks to derive economic value with the pursuit of social and environmental outcomes."*

*Tyler Elm, Wal-Mart's  
Senior Director of Corporate Strategy and Business Sustainability*



## Sustainability strategies affect business value

Sustainability has made its way from the political agenda to the business agenda. Today the influence of business and what is expected of companies is central to the sustainability debate. The business community has embraced sustainability with companies developing ethical policies and mission statements.

Tools like eco-efficiency analysis and life cycle analysis enable companies to reduce their use of raw materials, lower emissions and exploit new opportunities while at the same time, gaining recognition and building corporate value for their implementation of sustainable practices.

This increased business focus has been accompanied by a rise in pressure from civil society. Quite simply, one of the reasons that businesses are implementing sustainability strategies is because it affects their value. Corporate Social Responsibility (CSR) and sustainability have an impact on consumer purchasing patterns. Research from the world's largest public relations company, Weber Shandwick, shows that some 75% of Germans, 66% of British and 42% of Italians would consider switching brands when a company is portrayed negatively in the press on CSR issues.



## Steel's sustainability: an opportunity to position your brand

*"Sustainability is about creating a solution that will let the customer feel good about their product choices - reinforcing brand loyalty - by keeping the buyer and eliminating the remorse. It's about making products that don't make us sick to produce, own, or dispose of. It's about restoring - putting back resources we've just been blasting through. And it's not about making just more things, but creating systems and solutions that are long term and forward thinking."*

*Wendy Jedlicka, Certified Packaging Professional,  
Jedlicka Design Ltd.*

The principles of sustainability are having a significant impact on brands as their whole context is changing. The supply chain, from container manufacturers and brand owners through to retailers and consumers, now demand that products meet with a core set of sustainability credentials.

This has opened up a whole new opportunity as sustainability presents brands and retailers with the chance to reconstruct themselves and create a new value system that meets consumer expectations. A number of retailers have seized the initiative and used sustainability as a differentiator for their business. Some have set goals for reducing packaging and driving energy efficiency and have introduced scorecards to help them evaluate their supply chain; others are developing software to help them integrate a sustainability dimension in every packaging decision they take.

As the drive for sustainability gathers pace, so initiatives like this will multiply. Hence, using sustainability as a lever for brand positioning creates opportunities for brand owners and retailers alike.





# STEEL, AN ENABLER FOR SUSTAINABILITY



If we consider the three platforms of sustainability - economic, social and environmental - we can see that steel is an optimal packaging solution when judged against these three pillars.

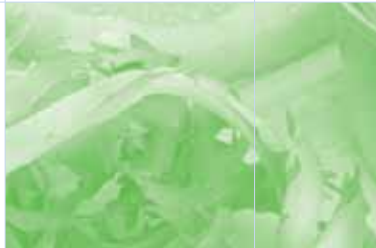
## The steel industry: a long standing tradition in sustainability

Throughout the years, the steel industry has been concerned about its use of natural resources and its impact on the environment. The industry has made significant efforts in reducing CO<sub>2</sub> emissions and limiting its use of fossil fuels, boosting recycling levels and promoting the eco-efficiency of steel packaging. Its sustained recycling continues to reduce the consumption of raw materials and energy.

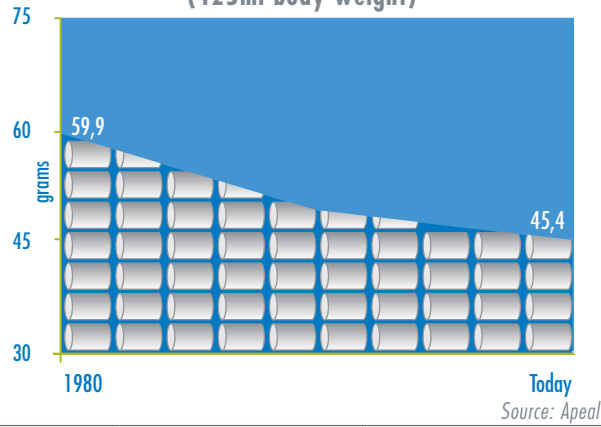
The industry has achieved a dramatic reduction in CO<sub>2</sub> emissions per tonne of crude steel output that are now 50% lower than 40 years ago. It is investing considerable effort to be able to further reduce its environmental footprint.

At the same time, the industry has been continuously optimising the end product - steel packaging - allowing it to become ever lighter. The weight of steel food cans has been reduced by 25% over the past 30 years thanks to the development of new steel grades. This means cans use less raw material and are lighter to transport - all of which have a positive impact on the environment.

The steel industry's commitment to research and innovation means that steel packaging enjoys a sustainability performance that meets the needs of brand owners, retailers and consumers alike.



## Weight reduction of steel food cans (425ml body weight)

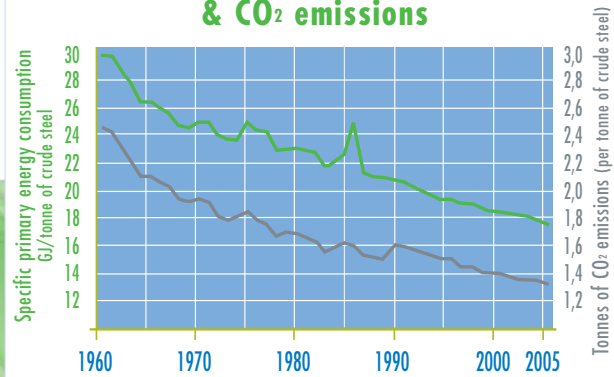


## Steel production, an energy efficient process

The steel industry has focused on reducing its use of energy and resources for many years, and with significant results.

In the past 50 years the fossil fuels needed to produce one tonne of steel have been reduced by 40%. To optimise use of energy, steel producers use the most sophisticated energy and gas management systems in their processes. In today's steel production, gaseous by-products are used as fuel, replacing primary energy; and a high percentage of thermal energy in cooling water, exhausted gases and residual products are recovered for use elsewhere.

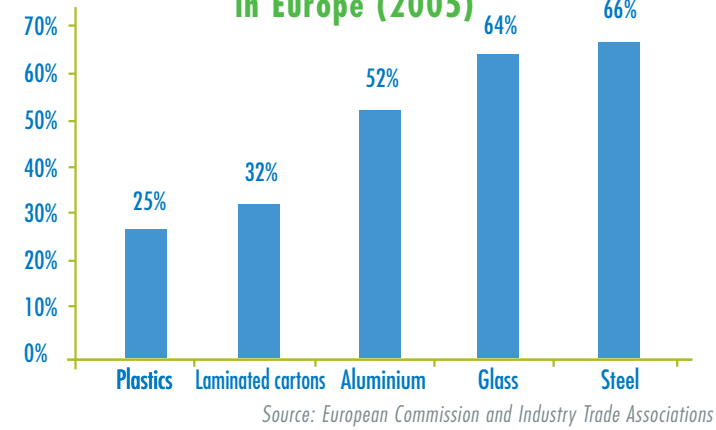
## Reduction of energy consumption & CO<sub>2</sub> emissions



## Steel, the most recycled material

Steel is the world's most recycled material for food packaging. In Europe, some 66% of steel packaging is recycled and this figure has doubled over the past 10 years. Thanks to its magnetic properties, steel is particularly easy and cost effective to sort for recycling.

## Recycling of main packaging materials in Europe (2005)



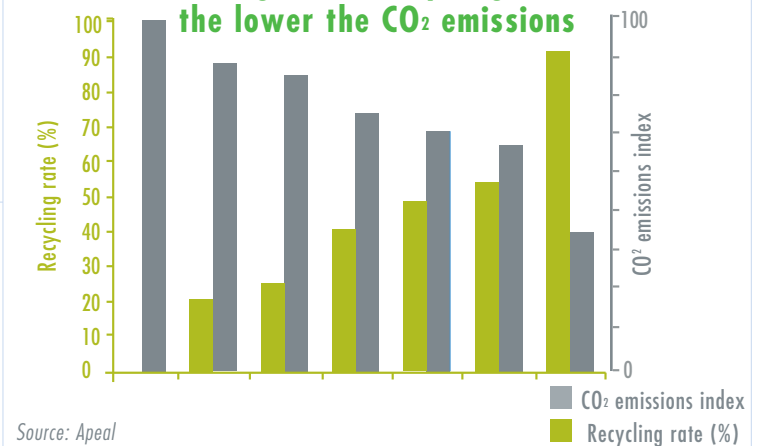
## Steel is eternally renewable

Steel loses none of its strength or inherent properties, no matter how many times it is recycled. Hence, reusing old steel packaging and recycling it into new steel is a never ending process.

This unlimited lifespan and the potential for unlimited recyclability gives steel a huge environmental advantage. It means that natural resources are saved for future generation and that energy use and CO<sub>2</sub> emissions are significantly reduced.

The higher the recycling rate, the better the environmental profile of steel.

## The higher the recycling rate, the lower the CO<sub>2</sub> emissions



# CANNED FOOD: A TOP PERFORMER IN ECO-EFFICIENCY

*"In today's open market where the supply of foods is secured throughout the year, amongst the systems studied, canned food is a top performer in terms of eco-efficiency"*

*Toon Ansems, Project Leader, TNO - Environment, Energy & Process Innovation*



Eco-efficiency describes the combined environmental and economic performance of a product. It enables more efficient production processes and the creation of better products and services while reducing resource use, waste and pollution along the entire value chain.

Two major studies illustrate the eco-efficiency of canned food. One analyses the environmental impact and economic costs of preparing a meal with different packaging systems. The other illustrates the energy efficiency of supplying food in cans from harvest to the end consumer.

Together, they demonstrate that canned food stands out as one of the best performing packaging solutions offering consumers a good product that they can trust, while also offering society the optimum solution in terms of sustainability.

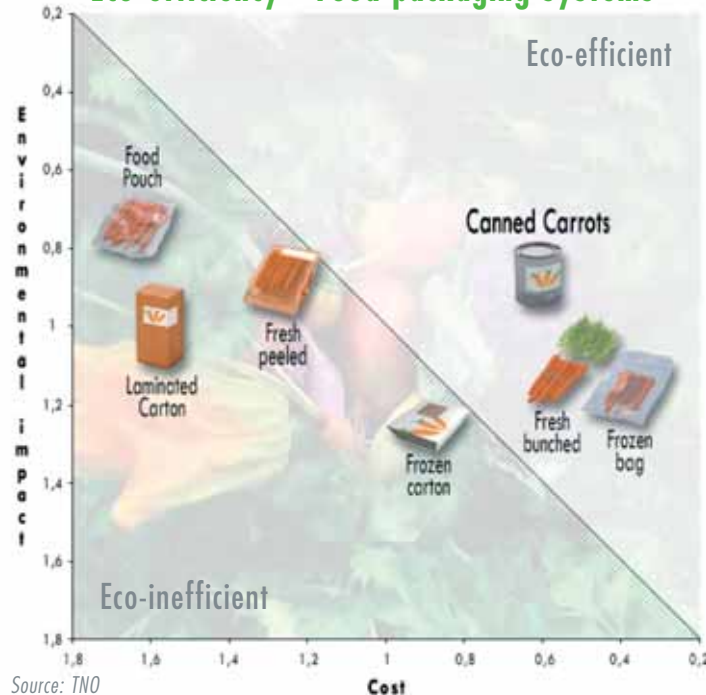
## Eco-Efficiency of canned foods: best performance combining environmental profile & cost benefits

A study undertaken in 2005 by LCA and food research institute TNO looked at the sustainability of the packaging system from a holistic perspective. It measured the global impact of both the packaging and the product at each stage of their lifecycle. The Dutch market was taken as the basis for the study. Carrots were chosen as the example as they are available in a wide range of processing and packaging combinations.

Seven food packaging/processing combinations were compared amongst which fresh, bunched carrots, frozen and canned. Each step of the product lifecycle was considered separately (from farm to fork, and including recycling).

In a situation of an open economy (including imports and exports), canned carrots are, amongst the alternative packaging systems analysed, the best performing product in terms of eco-efficiency when considering the combined environmental impact and cost.

### Eco-efficiency - Food packaging systems



Source: TNO



## A responsible choice in today's challenge of energy efficiency

A study conducted by Scientific Certification Systems (SCS) in California, comparatively assessed the energy consumption of fresh, frozen and canned food delivery systems, quantifying the energy requirements at each stage from farm to fork.

Two delivery formats - bulk and portion servings - were compared across a series of packaging/processing combinations: bulk refrigerated product (e.g. green beans, broccoli, asparagus) in coated cardboard; frozen products in different packaging formats; canned ready meals and canned products.

The various stages included growing/harvesting, food processing, production of sales & transport packaging, transporting from field to end consumer, storing for wholesale and retail distribution, as well as home storage and food preparation at home.

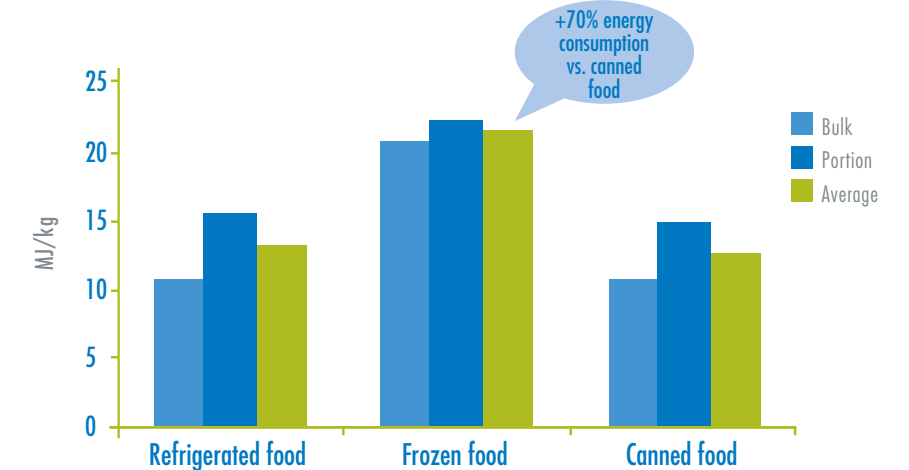
## Canned meals: the most energy effective method of delivery

Taking the full process - from farm to fork - into account, the study clearly reveals that canned foods offer the most energy effective method for product delivery. The most energy intensive methods, frozen bagged and boxed product, require over 100% more energy from farm to fork than bulk and canned meals.

## Why is canned food such an energy efficient method of food delivery?

Firstly, in terms of food processing, the energy inputs for canning are significantly less than those reported for frozen goods. Secondly, due to its compact and stackable container designs, it enables more food to be transported in limited volume with less transport packaging. Thirdly, being stored at ambient temperature, canned food is totally independent of refrigeration.

### Energy consumption across the food supply chain from farm to fork



Source: Scientific Certification System (scs).



### Summing it up

As the world demands solutions for a sustainable future, the sustainability performance of steel for packaging can provide an answer. Steel packaging offers brand owners, retailers and consumers a strong performing product they can trust, while also enabling them to demonstrate their **active role in building a sustainable society**.

Thanks to the efforts of the industry and the intrinsic qualities of the material, steel's sustainability performance ticks all of the boxes for an optimal packaging solution...

- Steel has demonstrated **important improvement in production efficiencies** in recent years - reducing the use of natural resources, lowering CO<sub>2</sub> emissions and developing new grades of steel makes lighter cans possible to produce without losing any of their inherent strength;
- Steel is a **renewable product** that is endlessly recyclable and hence saves energy and resources for future generations;
- Steel packs offer **an energy efficient means of food delivery** while upholding safety, conservation and nutritional value. They offer excellent performance in terms of:
  - **Transport:** steel packs are compact, stackable and need little packaging;
  - **Storage:** steel packs can be stored at ambient temperatures and don't need refrigeration;
  - **Eco-efficiency:** steel food cans retain essential vitamins and nutrients, and independent studies have attested - in comparison to alternative packaging systems - their top performance in terms of eco-efficiency and reduced energy consumption.

